Test Procedure for

DETERMINING THE EFFECTIVENESS OF ONE-COAT MAINTENANCE PAINTS

TxDOT Designation: Tex-817-B

Effective Date: October 2014

1. SCOPE

1.1 This method describes the procedure used to determine the effectiveness of one-coat maintenance paints designed for application with minimal surface preparation.

1.2 The vendor submitting paint for evaluation will perform surface preparation and paint application under witness of a Department representative.

1.3 The values given in parentheses (if provided) are not standard and may not be exact mathematical conversions. Use each system of units separately. Combining values from the two systems may result in nonconformance with the standard.

2. APPARATUS

2.1 *Conventional spray setup,* to apply primer.

2.2 *Paint key or tool,* to open paint containers.

2.3 *Paint stick or mixer*.

2.4 *Hand tools,* such as scraper, hammer, wire brush, and rags to perform SSPC SP-2 surface preparation.

2.5 *Pressure washer,* 1,000–1,500 psi.

2.6 *Paint brush,* appropriate for evaluation paint.

3. MATERIALS

3.1 *Steel test panel,* as specified in Figure 1, to serve as a substrate for the test paint. The panel is a complicated shape to paint and will have a combination of aged paint and rusted steel.

3.2 *Epoxy zinc prime coat, #*810F, in accordance with DMS-8100, "Structural Steel Paints—Formula."

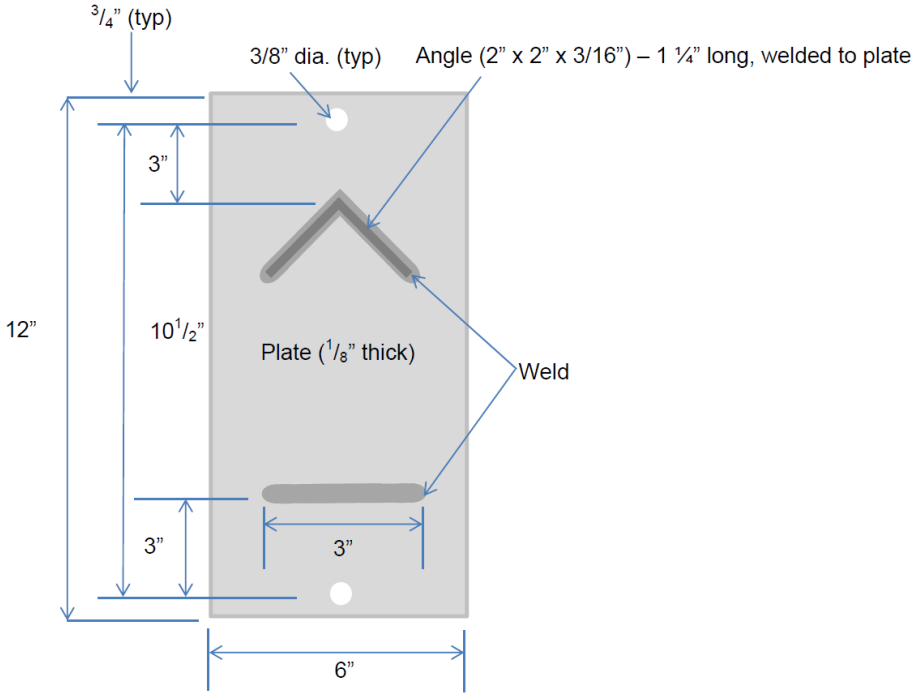

Figure 1—Complex Test Panel

4. PREPARING TEST SUBSTRATE PANELS

4.1 Spray apply epoxy zinc prime coat to approximately 2/3 of the panel, as shown in Figure 2, per the manufacturer's instructions, except apply the paint over-thick to achieve 20–40% drips, runs, and sags to simulate irregular surface condition of field structures.

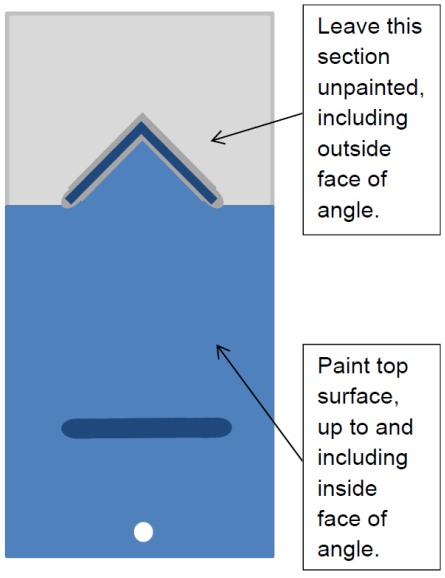

Figure 2—Painted Complex Test Panel

4.2 Expose the primed panel for a minimum of 6 months at the Department's marine exposure test site in Corpus Christi, TX. Ensure the exposed steel has rust scaling and the exposed primer shows some white oxidation.

4.3 Pre-clean the exposed panel by knocking off rust scale with heavy hand tools (e.g., hammer, scraper) and thoroughly pressure wash.

4.4 Store pre-cleaned panels in a dry, indoor location for a minimum of 24 hours.

5. PROCEDURE

5.1 Mix the evaluation maintenance paint by hand or by powered mixer.

5.2 Re-clean the pre-cleaned substrate panels in accordance with SSPC SP-2, using a wire brush and scraper as needed. Use compressed air to blow off any remaining dust.

5.3 Brush apply evaluation paint to both sides of the panel. One person must complete the application in less than 15 minutes. After initial cure, touch up mounting points used during application with the evaluation paint.

5.4 Cure the painted panel for a minimum of 24 hours, until normal handling does not cause damage to the coating.

5.5 Expose the panel for a minimum of 2 years at the Department's marine exposure test site.

6. EVALUATION

6.1 The Department will evaluate the coating's performance for blistering, rusting, undercut, or other failure modes 2–4 times per year.

6.1.1 Evaluate blistering in accordance with ASTM D 714.

6.1.2 Evaluate rusting in accordance with ASTM D 610.

6.2 Paint must be intact and exhibit no peeling, flaking, cracking, crazing, or degradation.